ALL INDIA RPS OLYMPIAD 2021

(Organized by RPS Education Society Mahendergarh Haryana)

M.M. 60   **Class 7th**   **Time: 60 Minutes**

English (15)

Q. 1.   **Choose the correct sentence.**

(a) One or other of us will be there.   (b) Every of the two boys gets a prize.

(c) Both of us mocked at one another.   (d) One other have decided to finish this work.

Direction (Q2-3) In the following questions, choose the alternative which may improve the given sentence. In case no improvement is needed, your answer is (d).

Q. 2.   **We had a grand party and we enjoyed very much.**

(a) We had a grand party and enjoyed very much.   (b) We had a grand party to enjoy very much.

(c) We had a grand party and we enjoyed ourselves very much.   (d) No improvement

Q. 3.   The priest told the devotees that the wages of sin **are** death.

(a) was   (b) is   (c) were   (d) No improvement

Q. 4.   He grew tired of hard work and began to despair _____ success.

(a) of   (b) with   (c) for   (d) about

Fill in the blank with suitable question tag.

Q. 5.   If I take a state roadways bus, I will get late, _____.

(a) is it ?   (b) isn't it ?   (c) will I ?   (d) won't I ?

Q. 6.   He was so badly wounded that there was _____ hope of his recovery.

(a) a little   (b) less   (c) the little   (d) little

Q. 7.   I was informed on phone but no written confirmation _____ so far.

(a) has received   (b) has been received (c) had received   (d) had been received

Q. 8.   He will be late if we _____ not leave now.

(a) will   (b) shall   (c) did   (d) do

Choose the alternative which is closest to the opposite in meaning of the italicised word in the sentence.

Q. 9.   He has been *acquitted* of the charge of theft.

(a) punished   (b) convicted   (c) released   (d) exonerated

Q. 10. _____ ! I can't believe that you are coming here!

(a) Hmm   (b) Ack   (c) Yay   (d) Uhm

Direction (Q11-12) A sentence has been given in Direct/ Indirect speech. Out of the four alternatives, select the one which best expresses the same sentence in Direct/ Indirect speech.

Q. 11. Ram said to his boss, "Let me go home."

    (a) Ram requested to his boss to allow him to go home.

    (b) Ram requested his boss to allow him to go home.

    (c) Ram requested his boss that he should go home.

    (d) Ram requested his boss to allow him for going home.

Q. 12. You said to your mother, "Stop working".

    (a) You asked your mother to let the work stop.

    (b) You prohibited your mother to work.

    (c) You prohibited your mother by asking to stop working.

    (d) You prohibited your mother from working.

Direction: (Q13-15) A sentence has been given in Active voice/Passive voice. Out of the four alternatives, select the one which best expresses the same sentence in Passive/ Active voice.

Q. 13. Please shut the door and go to sleep.

    (a) The door is to be shut and you are to go to sleep.

    (b) Let the door be shut and you be asleep.

    (c) You are requested to shut the door and go to sleep.

    (d) The door is to be shut and you are requested to sleep.

Q. 14 His behaviour surprises me.

    (a) I am surprised by his behavior.   (b) I was surprised at his behaviour.

    (c) I am surprised at his behaviour.   (d) I was surprised by his behaviour.

Q. 15. Spain expects to win the world cup.

    a) It is expected to win the world cup by Spain.

    b) It was expected to win the world cup by Spain.

    c) The world cup is expected to win by Spain.

    d) The world cup was expected to win by Spain.

Maths (15)

Q. 16. If $\dfrac{x}{y} = \dfrac{9}{8}$, then the value of $\left(\dfrac{6}{7} + \dfrac{y-x}{y+x} \right)$.

    (a) $\dfrac{9}{119}$ (b) $\dfrac{95}{119}$ (c) $\dfrac{19}{119}$ (d) $1\dfrac{9}{119}$

Q. 17 In a rectangle, the difference between the sum of adjacent sides and the diagonal is half the length of longer side. What is the ratio of the shorter to the longer side?

    (a) $\sqrt{3}:2$ (b) $1:\sqrt{3}$ (c) $2:5$ (d) $3:4$

Q. 18 Area of the shaded part of given figure is 11×K sq. cm. Find k.

(a) 7

(b) 77

(c) 66

(d) 99
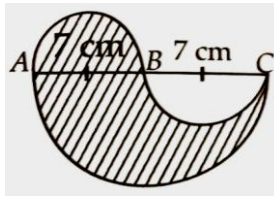
Q.19 If 2A= 3B =4C, then A: B: C=?

(a) 2: 3: 4   (b) 4: 3: 2   (c) 6: 4: 3   (d) 3: 4: 6

Q20   If the cost price of 12 pencils is equal to the selling price of 15 pencils, then the loss % is

(a) 20 %   (b) 25 %   (c) 30 %   (d) $16\dfrac{2}{3}$%

Q. 21 The perimeter of a triangle is $5 - 3a + 7a^2$ and two of its sides are $2a^2 + 3a - 2$ and $3a^2 - a+3$. Find the third side of the triangle.

(a) $4 - 5a + 2a^2$ (b) $-4 + 5a - 2a^2$ (c) $4+5a - 2a^2$ (d) $5 - 4a - 2a^2$

Q. 22 Rohan spends Rs x daily and saves Rs y per week, what is his income in 3 weeks?

(a) Rs (21x+ 9y)   (b) Rs (21x + 3y)   (c) Rs (3x+9y)   (d) Rs (7x+3y)

Q. 23 If RS II PQ and RT II UQ, then find the value of 8x –2y.

(a) 150^0

(b) 100^0

(c) 60^0

(d) 30^0
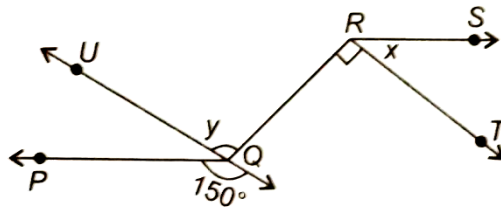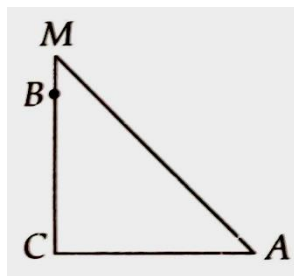
Q. 24 A number when multiplied by 4 is increased by 54. The number is

(a) 21   (b) 20   (c) 19   (d) 18

Q. 25 In the right triangle, MB + MA = BC + CA. If BC = 8 and AC = 10, then the value of MB is

(a) $\dfrac{27}{5}$
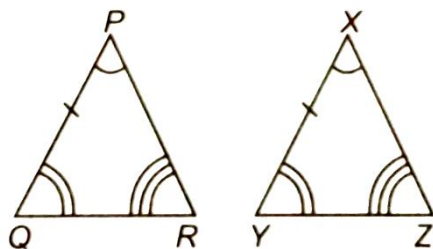
(b) $\dfrac{15}{7}$

(c) $\dfrac{40}{13}$

(d) 6

Q. 26 If $\dfrac{32}{500} = \dfrac{2^3}{5^m}$, then the value of m is
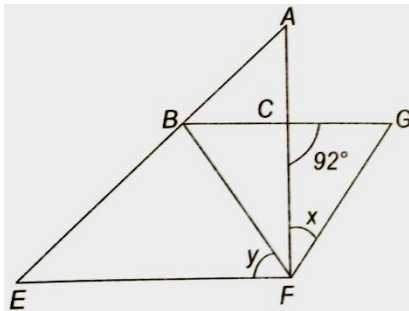
(a) 0   (b) 1   (c) 2   (d) 3

Q. 27 Δ PQR ≅ ΔXYZ by _____ congruency rule.

(a) SSS

(b) AAA

(c) SAS

(d) ASA

Q. 28 In the given figure, EFA is a right angle triangle with $\angle$ EFA $=90^0$ and FGB is an equilateral triangle, find y – 2x.

(a) 2^0

(b) 8^0

(c) 17^0

(d) 20^0

Q. 29 The mean of 10 observations was found to be 50, later it was detected, that one observation 94 was misread as 49. Find the correct mean.

(a) 50.5   (b) 54.5   (c) 52.2   (d) 53.2

Q. 30 The quotient of two numbers is $\dfrac{-5}{7}$. If the dividend is $\dfrac{-4}{5}$ and the remainder is 0, then find the divisor.

(a) $\dfrac{26}{15}$ (b) $\dfrac{-28}{25}$ (c) $\dfrac{28}{25}$ (d) $\dfrac{25}{28}$

Science (15)

Q. 31. Carbon (C) and oxygen (O) reacts to form a substance carbon dioxide. Which statement   about CO_2 is false?

(a) CO_2 can be classified as a pure substance

(b) CO_2 shows the properties of carbon as well as oxygen

(c) CO_2 is a compound of carbon and oxygen

(d) The reaction involves changes in energy.

Q. 32. A 100g iron ball is cooled down from 100°C to 30°C. Calculate the loss of heat if specific heat of iron is 4.8×10^2 J Kg^{-1} C^{-1}.

(a) 3360000 J   (b) 3360 J   (c) 336 J   (d) 33.6 J

Q. 33. Velocity time graph of a moving object is shown in figure
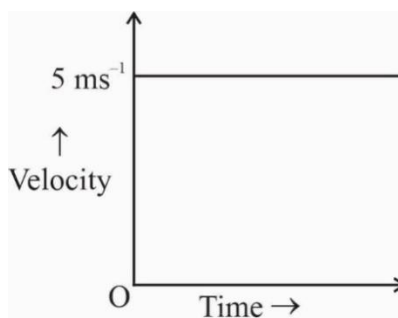
  (a) force acting on particle is 5 N   (b) force acting on particle is constant

  (c) force acting on particle is zero   (d) Acceleration of particle is 5 ms^{-2}.

Q. 34 A cyclist starts from the centre O of a circular park of radius 1 km, reaches the edge P of the park, then cycles along the circumference and return to the centre along QO as shown in figure, if the round trip takes 10 minutes, then the average speed of cyclist.

  (a) $\dfrac{\pi + 2}{10}$ km per min

  (b) $\dfrac{\pi + 2}{10}$ km per min

  (c) $\dfrac{\pi}{4}$ km per min

  (d) π km per min
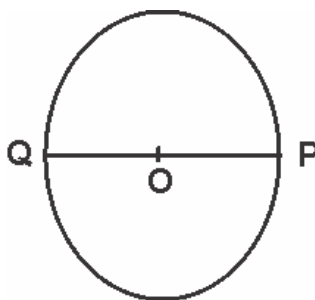
Q. 35 Light ray A and B fall on an optical component X and come out as C and D.
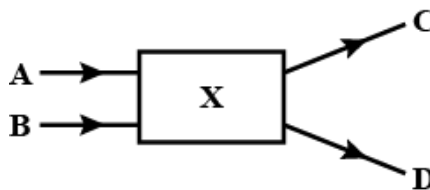
The optical component is a:

(a) Concave lens   (b) Convex lens   (c) Convex mirror   (d)   Prism

Q. 36 A current of 0.5 A is drawn by a filament of an electric bulb for 10 minutes. Find the amount of electric charge that flows through the circuit.

(a) 100 C   (b) 300 C   (c) 200 C   (d)   400 C

Q. 37 Which of the following substance can produce largest cooling effect.

(a) Ice at 0°C   (b) Water at 0°C

(c) Water at −1°C   (d) Cooling effect off all is same.

Q. 38   Assertion (A) : A convex mirror always forms a diminished and virtual image

Reason (R) : The laws of reflection are not applicable in the case of spherical mirrors.

(a) Both A and R are correct, and R is the correct explanation of A.

(b) Both A and R are correct, and R is not the correct explanation of A.

(c) A is correct but R is incorrect.

(d) Both A and R are incorrect.

Q. 39   Which of the following are exothermic process?

(i) Reaction of water with quick lime   (ii) Dilution of an acid.

(iii) Evaporation of water   (iv) Sublimation of camphor

(a) (i) and (ii)   (b) (ii) and (iii)   (c) (i) and (iv)   (d) (iii) and (iv)

Q. 40   An aqueous solution of HCl has a pH of 2.0. When water is added to increase the pH to 5.0 the hydrogen ion concentration:

(a) remains same   (b) decrease three fold

(c) increases threefold   (d) decreases thousand fold

Q. 41   An individual has O blood group if his/her blood sample

(a) Clumps only when antiserum A is added

(b) Clumps only when antiserum B is added

(c) Clumps when both antiserum A and antiserum B are added

(d) Does not clump when either antiserum A or antiserum B is added

Q. 42   Enzyme X extracted from the digestive system hydrolyses peptide bonds. Which of the following are probable candidates to be enzyme X ?

(a) Amylase   (b) Lipase   (c) Trypsin   (d) Maltase

Q. 43.   Cell wall of root hair has two layers outer and inner which are made up of

(a) Pectin and lignin respectively   (b) Pectin and cellulose respectively

(c) Cellulose and pectin respectively   (d) Lignin and cellulose respectively

Q. 44   Consider the following statements:

I. Kidney is a major organ for excretion

II. Nitrogen in the form of NH_3 is major waste product of human. Which of the following statements are true?

(a) only I   (b) only II   (c) I and II   (d) Neither I and II

Q. 45 During a group discussion on the topic "Rusting", three students, Naina, Rohit and Mehak gave the following statements:

Naina : Stainless steel rusts more quickly as it contains carbon and metals like chromium, nickel and manganese.

Rohit : Salty water slows the process of rust formation as it contains many salts.

Mehak : Depositing a layer of iron on zinc is called galvanisation.

Choose the correct option.

(a) Rohit and Mehak are correct.

(b) Naina and Rohit are correct.

(c) Naina is correct while Rohit and Mehak are wrong.

(d) All the three are wrong.

Aptitude (15)

Q. 46 Find the next sequence: 16, 24, 48, 120, 360, 1260, ?

(a) 3780   (b) 4725   (c) 5355   (d) 5040

Q. 47. "Clock" is related to "Time" in the same way as "Vehicle" is related to which of the following ?

(a) Driver   (b) Road   (c) Passenger   (d) Journey

Q. 48. Find the odd one:

(a) Nephrology   (b) Entomology   (c) Astrology   (d) Mycology

Q. 49. In a certain code, COMPUTER is written as RFUVQNPC. How is MEDICINE written in the same code?

(a) EOJDJEFM   (b) EOJDEJFM   (c) MFEJDJO   (d) MFEDJJOE

Q. 50. A is the son of C; C and Q are sisters; Z is the mother of Q and P is the son of Z. Which of the following statements is true?

(a) P and A are cousins   (b) P is the maternal uncle of A

(c) Q is the maternal grandfather of A   (d) C and P are sisters

Q. 51. A clock is so placed that at 12 noon its minute hand points towards north-east. In which direction does its hour hand point at 1:30 pm?

(a) North   (b) South   (c) East   (d) West

Q. 52. A clock gains 15 minutes per day. It is set right at 12 noon. What time will it show at 4.00 am, the next day?

(a) 4:10 am   (b) 4:45am   (c) 4:20 am   (d) 5:00am

Q. 53. The last day of a century can't be

(a) Monday   (b) Tuesday   (c) Wednesday   (d) Friday

Q. 54. Choose the best option to represent the Biology, Botany, Zoology.

(a)   (b)   (c)   (d)
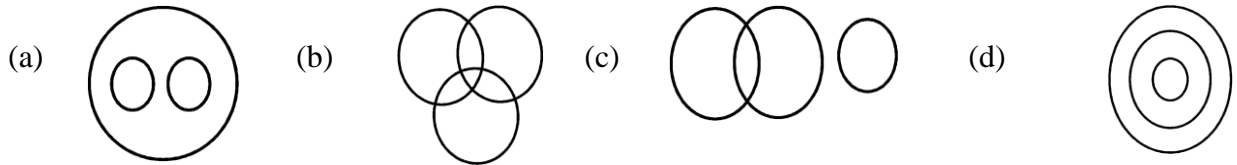
Q. 55. If '−'stand for addition, '+' stands for subtraction, '÷' stands for multiplication and '×' stands for division then which one of the following equations is correct?

(a) $25 \times 5 \div 20\text{-}27 + 7 = 120$

(b) $25 + 5 \times 26\text{-}27 + 7 = 128$

(c) $25 + 5\text{-}20 + 27 \times 7 = 95$

(d) $25\text{-}5 + 20 \times 27 \div 7 = 100$

Q. 56. A river flows West to East and on the way turns left and goes in a semi-circle round a hillock and then turns left at right angles. In which direction is the river finally flowing?

(a) West   (b) East   (c) North   (d) South

Q. 57. Which one will replace the question mark ?
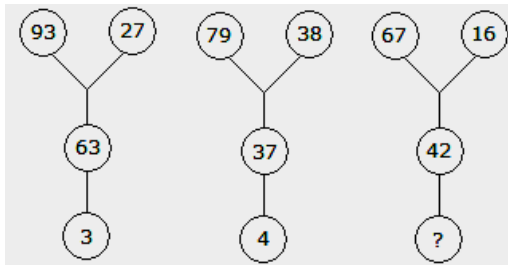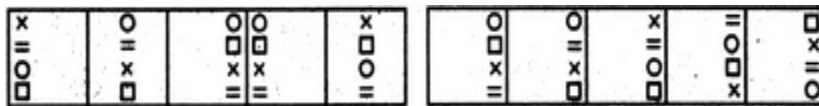

(a) 5   (b) 6   (c) 8   (d) 9

Q. 58. The year next to 1990 will have the same calendar as that of the year 1990.

(a) 1995   (b) 1997   (c) 2001   (d) 1992

Q. 59. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.

Problem Figures: Answer Figures:

(A)   (B)   (C)   (D)   (E)   (1)   (2)   (3)   (4)   (5)

(a) 1   (b) 2   (c) 3   (d) 4

Q. 60. In a family of 5, P is the father of R. S is Q's son. S has R as sister. Therefore, if U has P as brother, then the relationship between Q and U is as follows.

(a) Q is U's daughter

(b) U is Q's wife

(c) Q is the sister-in-law of U

(d) Q is U's brother-in-law

SPACE FOR ROUGH WORK